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| APPLICATION NO.          | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
|--------------------------|-------------|----------------------|-------------------------|------------------|
| 10/810,931               | 03/26/2004  | Charles Ray Masters  | 5709                    | 1911             |
| 25280                    | 7590        | 06/12/2008           |                         |                  |
| Legal Department (M-495) |             |                      | EXAMINER                |                  |
| P.O. Box 1926            |             |                      | FLETCHER III, WILLIAM P |                  |
| Spartanburg, SC 29304    |             |                      |                         |                  |
|                          |             | ART UNIT             | PAPER NUMBER            |                  |
|                          |             | 1792                 |                         |                  |
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|                          |             | 06/12/2008           | PAPER                   |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/810,931

**Applicant(s)**

MASTERS ET AL.

**Examiner**

William P. Fletcher III

**Art Unit**

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 2, 2008, has been entered.

### ***Response to Amendment***

2. Claims 1-25 remain pending.

### ***Election/Restrictions***

3. Claims 1-19 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 17, 2006.

### ***Response to Arguments***

4. Applicant's arguments, see the remarks, filed June 2, 2008, with respect to the rejection of claims 20-25 under 35 USC 103(a) as being unpatentable over Yilgör et al. (US 5,521,273 A) in view of Lacy (US 3,173,189 A), set forth in the prior Office actions, have been fully considered and are persuasive. Specifically, Yilgör neither teaches nor suggests a coating in which the two polyurethanes are "blended," now recited by the claims as-amended. Therefore, the rejection has been withdrawn. However, upon

further consideration, a new ground(s) of rejection is made in view of Bacon, Jr. (US 2002/0192459 A1).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 20, 21, and 23-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacon, Jr. (US 2002/0192459 A1) in view of Bartoli et al. (EP 1 468 619 A1) and Lacy (US 3,173,189 A).**

A. Claim 20

i. Bacon, Jr., teaches a process for coating a substrate with comprising soft and hard component polyurethanes. The soft component polyurethane has an elongation of greater than about 200% [abstract], which,

because it overlaps the claimed range of "greater than or equal to 500%," renders Applicant's first polyurethane *prima facie* obvious [MPEP 2144.05(I)]. The hard component has an elongation of less than about 150% [abstract], which, because it overlaps the claimed range of "less than 500%," renders Applicant's second polyurethane *prima facie* obvious [MPEP 2144.05(I)].

ii. Bacon, Jr., does not expressly teach: (a) that the substrate is a fabric; (b) that the fabric is a sunscreen fabric; (c) that the fabric is a warp knit fabric having at least a two bar construction; or (d) that the ratio the first urethane polymer to the second urethane polymer is about 10:1 on a solids basis.

iii. With respect to (a), while Bacon, Jr., teaches that the coating may be "useful" in a wide variety of retroreflective applications, including clothing [0072-0073], this reference does not expressly teach that the coating is directly applied to a fabric substrate. Nevertheless, it is well known in the art to apply a flexible polyurethane coating directly to a fabric substrate in the manufacture of a retroreflective article. Bartoli et al. [0016] is cited here as merely one example. Consequently, it would have been obvious to one skilled in the art, when considering Bacon, Jr.'s, teaching at [0072-0073], to include direct application of the polyurethane to a fabric substrate, motivated by the desire and expectation of successfully producing a retroreflective garment, as suggested by Bartoli et al.

iv. With respect to (b), it the Examiner's position that this limitation, appearing only in the preamble, does not carry patentable weight because: this limitation is not essential to understand the limitations or terms in the claim body,

the preamble has not yet been relied upon during prosecution to distinguish the invention over the prior art, and the claim body describes a structurally complete invention such that deletion of the preamble phrase does not effect the claimed steps of the invention. See *Catalina Marketing International, Inc. v. Coolsavings.com, Inc.*, 62 USPQ2d 1781 (CAFC 2002). Further, because the coated fabric of Bacon, Jr., in view of Bartoli et al. inherently forms a physical barrier between sunlight on one side and an object or wearer on the other, it inherently functions to reflect, block, or otherwise attenuate at least some of the incoming sunlight and is, consequently, a sunscreen fabric.

v. With respect to (c), Bartoli et al. teaches that knit fabrics are known, but neither this reference nor Bacon, Jr., place any limitation on the particular means of manufacturing the knit fabric. Consequently, one of ordinary skill in the art would have looked to the prior art for a suitable means of doing so. Lacy teaches a two bar process for the production of a warp knit fabric [1:37-52]. Consequently, it would have been obvious to one skilled in the art to modify the process of '273 so as to produce the knit fabric according to the two bar process of Lacy. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of successfully providing a warp knit fabric of two bar construction that may be successfully coated according to Bacon, Jr.

vi. Finally, with respect to (d), Bacon, Jr., teaches a ratio of soft component (reading on the claimed first polyurethane) to hard component (reading on the claimed second polyurethane) of "about 9:1" [0045]. It is the

Examiner's position that Bacon, Jr.'s, teaching of "about 9:1" renders the claimed "about 10:1" obvious. A *prima facie* case of obviousness exists where the claimed range and a prior art range do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. See *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Here, it is the Examiner's position that a ratios of "about 9:1" and "about 10:1" are close enough, absent either an express teaching or evidence to the contrary, so as to either include the same ratios or include ratios having the same properties.

B. Claim 21 It is the Examiner's position that the openness of the fabric is a result-effective variable affecting the durability, breatheability, etc., of the fabric. Consequently, absent a clear and convincing showing of unexpected results demonstrating the criticality of the claimed openness, it would have been obvious to one skilled in the art to optimize this result-effective variable by routine experimentation.

C. Claims 23 & 24 Lacy teaches that the knit fabric may be dyed and thermally/fluid treated (i.e., boiled) to improve dimensional stability [1:52-60 and 3:1-10]. Consequently, it would have been obvious to one skilled in the art to modify the process of Bacon, Jr., in view of Bartoli so as to dye and boil the fabric to give a desired color and dimensional stability. Further, Bacon, Jr., teaches that the coated fabric may further be printed on [0053, 0062, and 0066, for example].

D. As noted above, Bacon, Jr., teaches that the coated fabrics may serve as, for example, signs, banners, flags, garments, etc. It is the Examiner's position that all of these structures typically have components such as zippers, buttons, grommets, etc., to which fabric is affixed via a mechanism such as an adhesive, etc. Consequently, such would have been obvious to one skilled in the art in producing the articles Bacon, Jr., in view of Bartoli et al. and Lacy.

**8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bacon, Jr. (US 2002/0192459 A1) in view of Bartoli et al. (EP 1 468 619 A1) and Lacy (US 3,173,189 A), as applied to claim 20 above, further in view of Yilgör et al. (US 5,521,273 A).**

A. As noted above, Bacon, Jr., teaches that the coated fabrics may serve as, for example, signs, banners, flags, garments, etc., but none of the cited references expressly teaches treatment with a flame retardant.

B. It is the Examiner's position that in all of these applications, fire retardant properties are advantageous to preserve the coated fabric and to protect it from fire. As noted in prior Office actions, Yilgör is evidence of this fact.

C. Consequently, it would have been obvious to one skilled in the art to modify the process of Bacon, Jr., in view of Bartoli et al., and Lacy, so as to treat the fabric with a flame retardant to advantageously preserve the coated fabric and to protect it from fire.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Sunday, 5:00 AM - 12:00 PM and Monday through Friday, 5:00 AM - 3:30 PM; on campus every Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/William Phillip Fletcher III/**  
Primary Examiner

June 8, 2008